Retirement Plan for the Police Officers Of the Village of Royal Palm Beach

Actuarial Valuation
As of October 1, 2019

Determines the Contribution
For the 2019/20 Fiscal Year

Southern Actuarial Services

January 17, 2020

Introduction

This report presents the results of the October 1, 2019 actuarial valuation for the Retirement Plan for the Police Officers of the Village of Royal Palm Beach. The report is based on the participant data and asset information provided by the pension plan administrator and, except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2019 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2019/20 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the normal cost rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2019/20 plan year. The minimum required contribution is $10,000.

Chapter 112, Florida Statutes, sets forth the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the Village must contribute an amount equal to the annual normal cost of the plan plus an adjustment as necessary to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the Village's 2019/20 minimum required contribution will be equal to $10,000 and reduced by the portion of the Chapter 175/185 contribution that is allowed to be recognized during the 2019/20 plan year. As of the date of this report, the allowable portion of the Chapter 175/185 contribution is more than $10,000 per year. However, this amount is subject to change depending on the amount of the Chapter 175/185 contribution for the 2019/20 plan year.

Identification and Assessment of Risk

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, there is always a risk that, should these assumptions not be realized, the liabilities of the plan, the contributions required to fund the plan, and the funded status of the plan may be significantly different than the amounts shown in this report.

Although a thorough analysis of the risk of not meeting the assumptions is beyond the scope of this report, this discussion is intended to identify the significant risks faced by the plan. In some cases, a more detailed review of the risks, including numerical analysis, may be appropriate to help the plan sponsor and other interested parties assess the specific impact of not realizing certain assumptions. For example, Table I-B illustrates the impact that alternative long-term investment returns would have on the contribution rate. Note that this report is not intended to provide advice on the management or reduction of the identified risks nor is this report intended to provide investment advice.

The most significant risk faced by most defined benefit pension plans is investment risk, i.e. the risk that long-term investment returns will be less than assumed. Other related risks include a risk that, if the investments of the plan decline dramatically over a short period of time (such as occurred with many pension plans in 2008), the plan's assets may not have sufficient time to recover before benefits become due. Even if the assets of the plan grow in accordance with the assumed investment return over time, if benefit payments are expected to be large in the short-term (for example, if the plan provides an actuarial equivalent lump sum payment option and a large number of participants are expected to become entitled to such a lump sum in the near future), the plan's assets may not be sufficient to support such a high level of benefit payments. We have provided a 10-year projection of the expected benefit payments in Table III-G to help the Trustees in formulating an investment policy that is expected to provide an investment return that meets both the short- and long-term cash flow needs of the pension plan.

Another source of risk is demographic experience. This is the risk that participants will receive salary increases that are different than the amount assumed, that participants will retire, become disabled, or terminate their employment at a rate that is different than assumed, and that participants will live longer than assumed, just to cite a few examples of the demographic risk faced by the plan. Although for most pension plans, the demographic risk is not as significant as the investment risk, particularly in light of the fact that the mortality assumption includes a component for future life expectancy increases, the demographic risk can nevertheless be a significant contributing factor to liabilities and contribution rates that become higher than anticipated.

A third source of risk is the risk that the plan sponsor (or other contributing entities) will not make, or will not have the ability to make, the contributions that are required to keep the plan funded at a sufficient level. Material changes in the number of covered employees, covered payroll, and, in some cases, hours worked by active participants can also significantly impact the plan's liabilities and the level of contributions received by the plan.

A fourth source of risk for this particular pension plan is a slight risk that the insurance company that has issued the insurance contracts will not be able to meet its obligation under the contract, leaving the Village to cover the remaining benefit liability for the participants at that time.

Finally, an actuarial funding method has been used to allocate the gap between projected liablities and assets to each year in the future. The contribution rate under some funding methods is higher during the early years of the plan and then is lower during the later years of the plan. Other funding methods provide for lower contribution rates initially, with increasing contribution rates over time. The Trustees have adopted the individual entry age normal funding method for this plan (nominally), which is expected to result in a contribution rate that is level as a dollar amount. A brief description of the actuarial funding method is provided in Table IV-A.

Contents of the Report

Tables I-D through I-H provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Tables III-A through III-D provide statistical information concerning the plan's participant population. In particular, Table III-D gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A and IV-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits as of October 1, 2019, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.

For the firm,

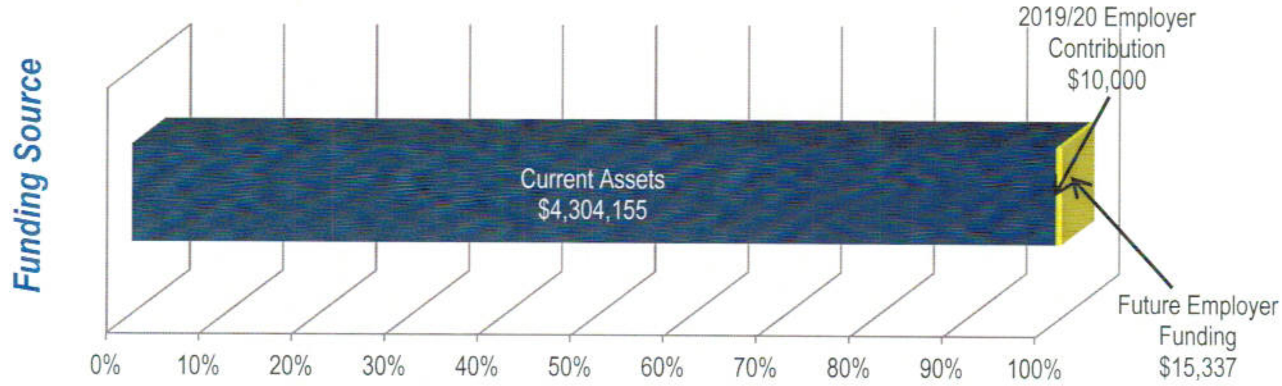
Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

Enrolled Actuary No. 17-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Minimum Required Contribution

Table I-A

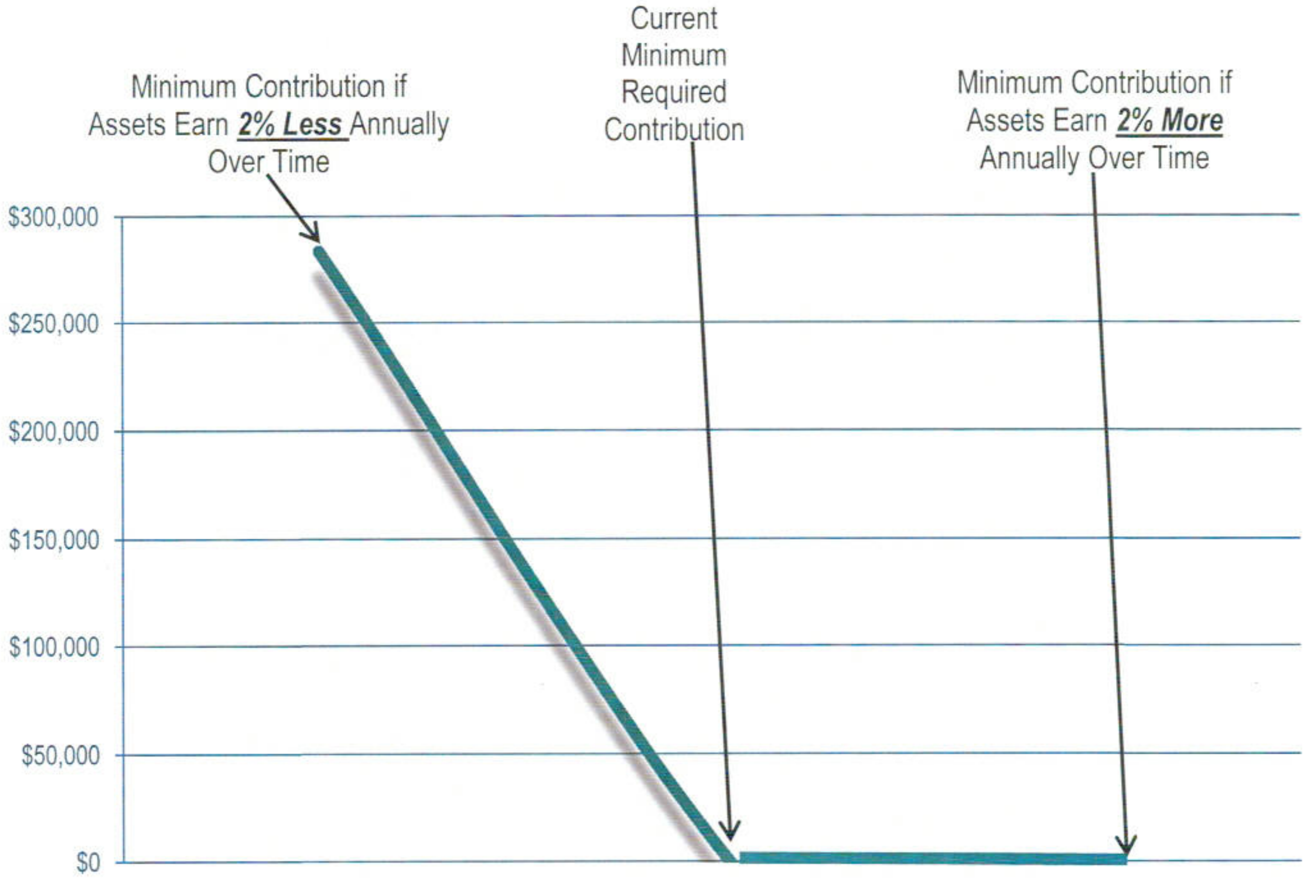


* without the expense loading

	For the 2019/20 Plan Year
Entry Age Normal Cost	$0
Unfunded Liability Amortization Payment	$3,004
Expense Allowance	$6,674
Expected Employee Contribution	$0
	$9,678
Adjustment to Reflect Employer Contribution On or About August 1	$322
Minimum Required Contribution	**$10,000**

Sensitivity Analysis

Table I-B



The line above illustrates the sensitivity of the minimum required contribution to changes in the long-term investment return.

Gain and Loss Analysis

Table I-C

Previous minimum required contribution	$1,477
Increase (decrease) due to investment gains and losses	$0
Increase (decrease) due to change in expected amortization pmts.	$0
Increase (decrease) due to other experience	$0
Increase (decrease) due to plan amendments	$0
Increase (decrease) due to actuarial assumption changes	$8,523
Increase (decrease) due to actuarial method changes	$0
Current minimum required contribution	$10,000

Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Deferred Vested Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$4,329,492	$4,329,492	$4,329,492
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Grand Total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Present Value of Future Payroll	$0	$0	$0
Present Value of Future Employee Contribs.	$0	$0	$0
Present Value of Future Employer Contribs. *(without the expense loading)*	$25,337	$25,337	$25,337

Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Deferred Vested Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$4,329,492	$4,329,492	$4,329,492
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Grand Total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Funded Percentage	99.41%	99.41%	99.41%

(Note: Funded percentage is equal to the ratio of the usable portion of the market value of assets divided by the present value of accrued benefits.)

Present Value of Vested Benefits

Table I-F

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Deferred Vested Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$4,329,492	$4,329,492	$4,329,492
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Grand Total	**$4,329,492**	**$4,329,492**	**$4,329,492**

Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Deferred Vested Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$4,329,492	$4,329,492	$4,329,492
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$4,329,492**	**$4,329,492**	**$4,329,492**
Grand Total	**$4,329,492**	**$4,329,492**	**$4,329,492**
less Actuarial Value of Assets	*($4,304,155)*	*($4,304,155)*	*($4,304,155)*
Unfunded Accrued Liability	**$25,337**	**$25,337**	**$25,337**

Unfunded Liability Bases

Table I-H

Description	Original Amount	Outstanding Balance	Amortization Payment	Years Rem.
	Total	***$25,337***	***$3,004***	
10/1/2019 Fresh Start UAAL	$25,337	$25,337	$3,004	10

Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2019	$4,304,155
Minus advance employer contributions	$0
Minus excess Chapter 175/185 contributions	$0
Actuarial Value of Assets as of October 1, 2019	**$4,304,155**

Historical Actuarial Value of Assets

October 1, 2010	N/A
October 1, 2011	N/A
October 1, 2012	N/A
October 1, 2013	N/A
October 1, 2014	N/A
October 1, 2015	N/A
October 1, 2016	N/A
October 1, 2017	N/A
October 1, 2018	$4,376,932
October 1, 2019	$4,304,155

Market Value of Assets

Table II-B

As of October 1, 2019

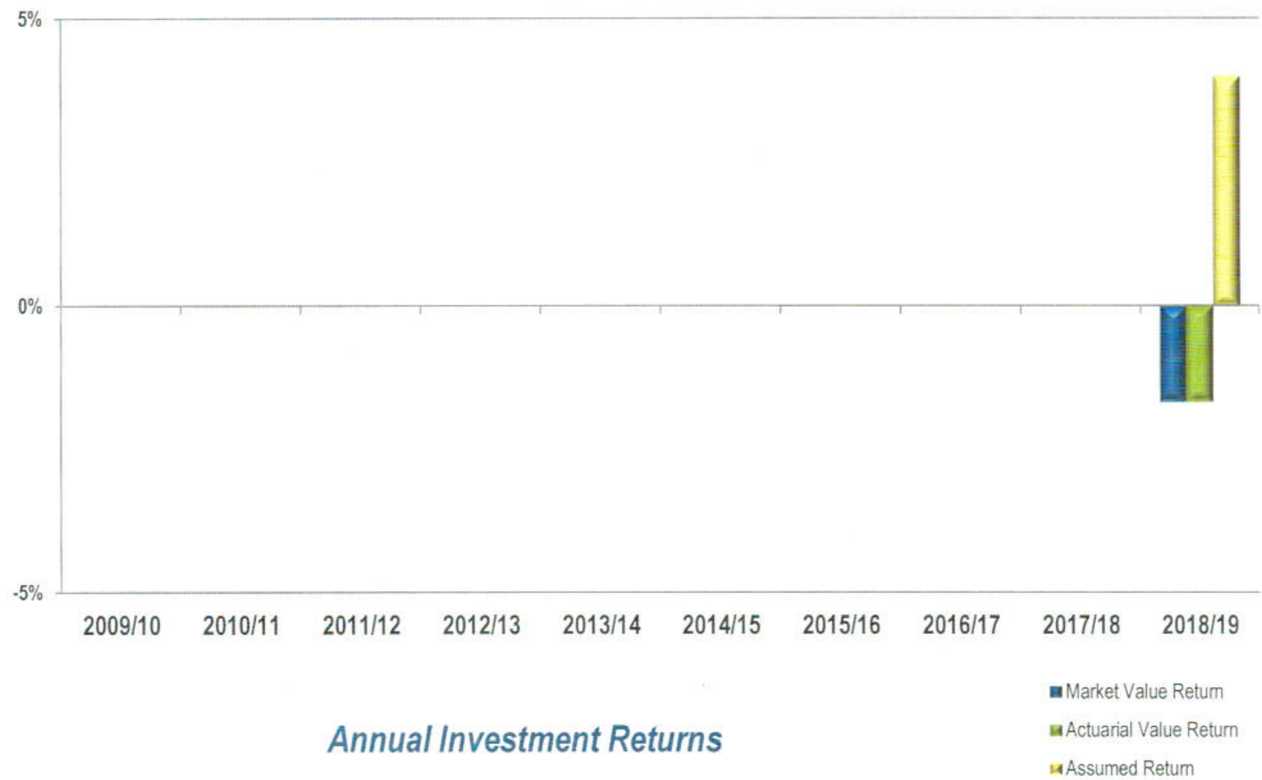
Market Value of Assets	**$4,304,155**
Cash and cash equivalents	$17,958
Insurance contracts	$4,286,197

Historical Market Value of Assets

October 1, 2010	N/A
October 1, 2011	N/A
October 1, 2012	N/A
October 1, 2013	N/A
October 1, 2014	N/A
October 1, 2015	N/A
October 1, 2016	N/A
October 1, 2017	N/A
October 1, 2018	$4,376,932
October 1, 2019	$4,304,155

Investment Return

Table II-C



Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2009/10	N/A	N/A	N/A
2010/11	N/A	N/A	N/A
2011/12	N/A	N/A	N/A
2012/13	N/A	N/A	N/A
2013/14	N/A	N/A	N/A
2014/15	N/A	N/A	N/A
2015/16	N/A	N/A	N/A
2016/17	N/A	N/A	N/A
2017/18	N/A	N/A	N/A
2018/19	-1.65%	-1.65%	4.00%
1yr. Avg.	-1.65%	-1.65%	4.00%

Asset Reconciliation

Table II-D

	Market Value	Actuarial Value
As of October 1, 2018	**$4,376,932**	**$4,376,932**
Increases Due To:		
Employer Contributions	$0	$0
Chapter 175/185 Contributions	$329,939	$329,939
Employee Contributions	$0	$0
Total Contributions	$329,939	$329,939
Interest and Dividends	$0	
Realized Gains (Losses)	$0	
Unrealized Gains (Losses)	($72,212)	
Total Investment Income	($72,212)	($72,212)
Other Income	$0	
Total Income	**$257,727**	**$257,727**
Decreases Due To:		
Monthly Benefit Payments	$0	$0
Refund of Employee Contributions	$0	$0
Transfer to Share Plan	($328,462)	($328,462)
Total Benefit Payments	($328,462)	($328,462)
Investment Expenses	$0	
Administrative Expenses	($2,042)	($2,042)
Advance Employer Contribution		$0
Excess Chapter 175/185 Contribution		$0
Total Expenses	**($330,504)**	**($330,504)**
As of October 1, 2019	**$4,304,155**	**$4,304,155**

Historical Trust Fund Detail

Table II-E

Income

Plan Year	Employer Contribs.	Chapter Contribs.	Employee Contribs.	Interest / Dividends	Realized Gains / Losses	Unrealized Gains / Losses	Other Income
2009/10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2010/11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2011/12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012/13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2013/14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2014/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2016/17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2017/18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2018/19	$0	$329,939	$0	$0	$0	-$72,212	$0

Expenses / *Other Actuarial Adjustments*

	Expenses				*Other Actuarial Adjustments*		
Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Invest. Expenses	Transfer to Share Plan	Advance Employer Contribs.	Excess Chapter Contribs.
2009/10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2010/11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2011/12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012/13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2013/14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2014/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2016/17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2017/18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2018/19	$0	$0	$2,042	$0	$328,462	$0	$0

Note: Information was not available to separate the investment expenses from the investment income nor was information available to separate the investment income by source.

Other Reconciliations

Table II-F

Advance Employer Contribution

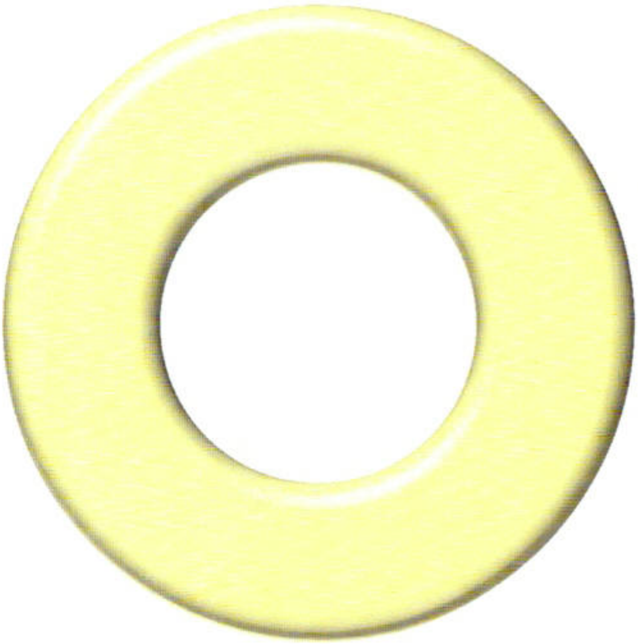
Advance Employer Contribution as of October 1, 2018	$0
Additional Employer Contribution	$1,477
Minimum Required Contribution	($1,477)
Net Increase in Advance Employer Contribution	$0
Advance Employer Contribution as of October 1, 2019	$0

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2018	$0
Additional Chapter 175/185 Contribution	$329,939
Transfer to Share Plan	($328,462)
Allowable Chapter 175/185 Contribution	($1,477)
Net Increase in Excess Chapter 175/185 Contribution	$0
Excess Chapter 175/185 Contribution as of October 1, 2019	$0

Summary of Participant Data

Table III-A



Participant Distribution by Status

	As of October 1, 2019
Actively Employed Participants	
Active Participants	0
DROP Participants	0
Inactive Participants	
Deferred Vested Participants	0
Due a Refund of Contributions	0
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	6
Disability Retirements	0
Beneficiaries Receiving	0
Total Participants	**6**

Number of Participants Included in Prior Valuations

	Active	*DROP*	*Inactive*	*Retired*	*Total*
October 1, 2010	0	0	0	6	**6**
October 1, 2011	0	0	0	6	**6**
October 1, 2012	0	0	0	6	**6**
October 1, 2013	0	0	0	6	**6**
October 1, 2014	0	0	0	6	**6**
October 1, 2015	0	0	0	6	**6**
October 1, 2016	0	0	0	6	**6**
October 1, 2017	0	0	0	6	**6**
October 1, 2018	0	0	0	6	**6**
October 1, 2019	0	0	0	6	**6**

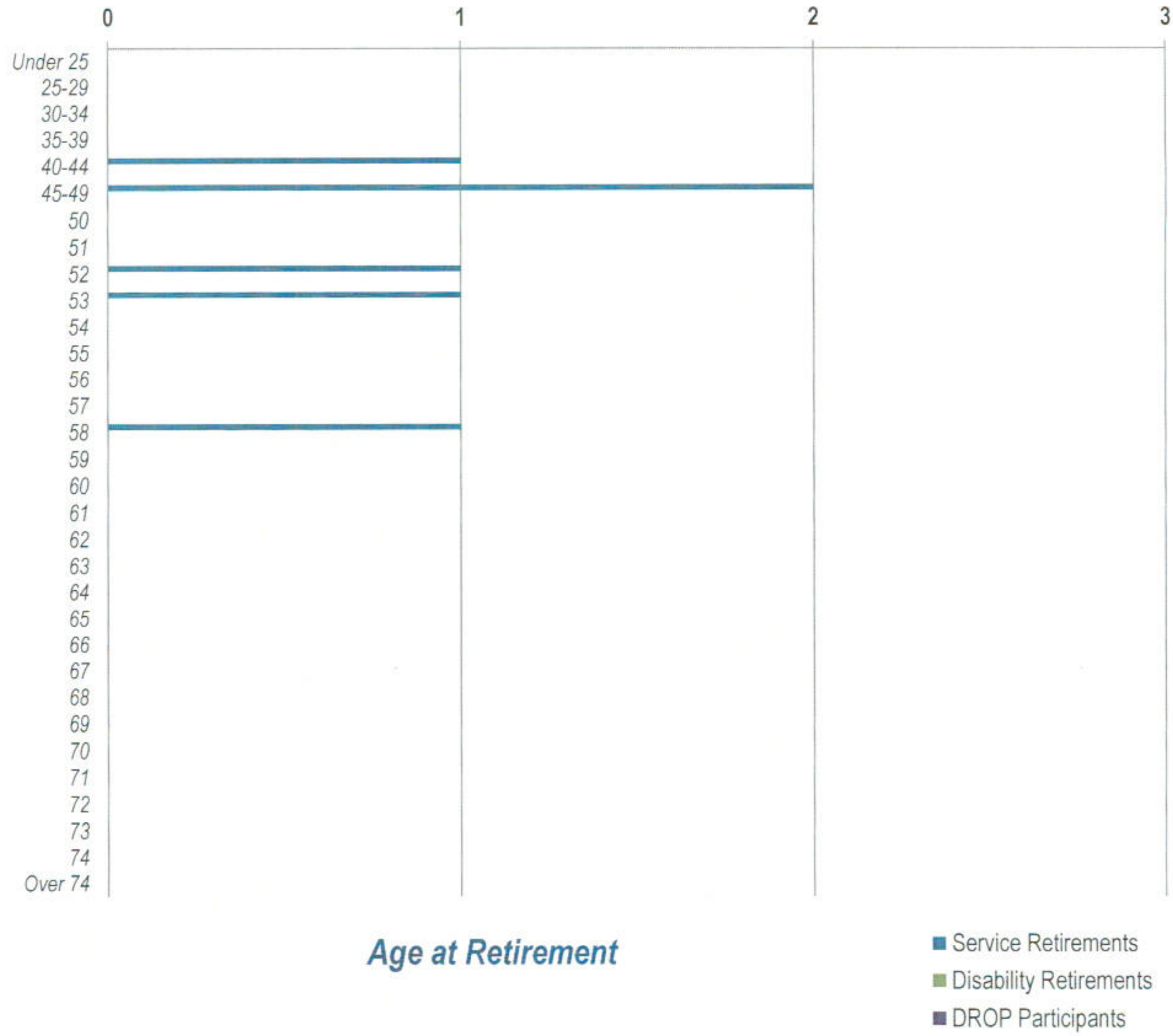
Data Reconciliation

Table III-B

	Active	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	0	0	0	0	0	6	0	0	**6**
Change in Status									
Re-employed									
Terminated									
Retired									
Participation Ended									
Transferred Out									
Cashed Out									
Died									
Participation Began									
Newly Hired									
Transferred In									
New Beneficiary									
Other Adjustment									
October 1, 2019	0	0	0	0	0	6	0	0	**6**

Inactive Participant Data

Table III-C

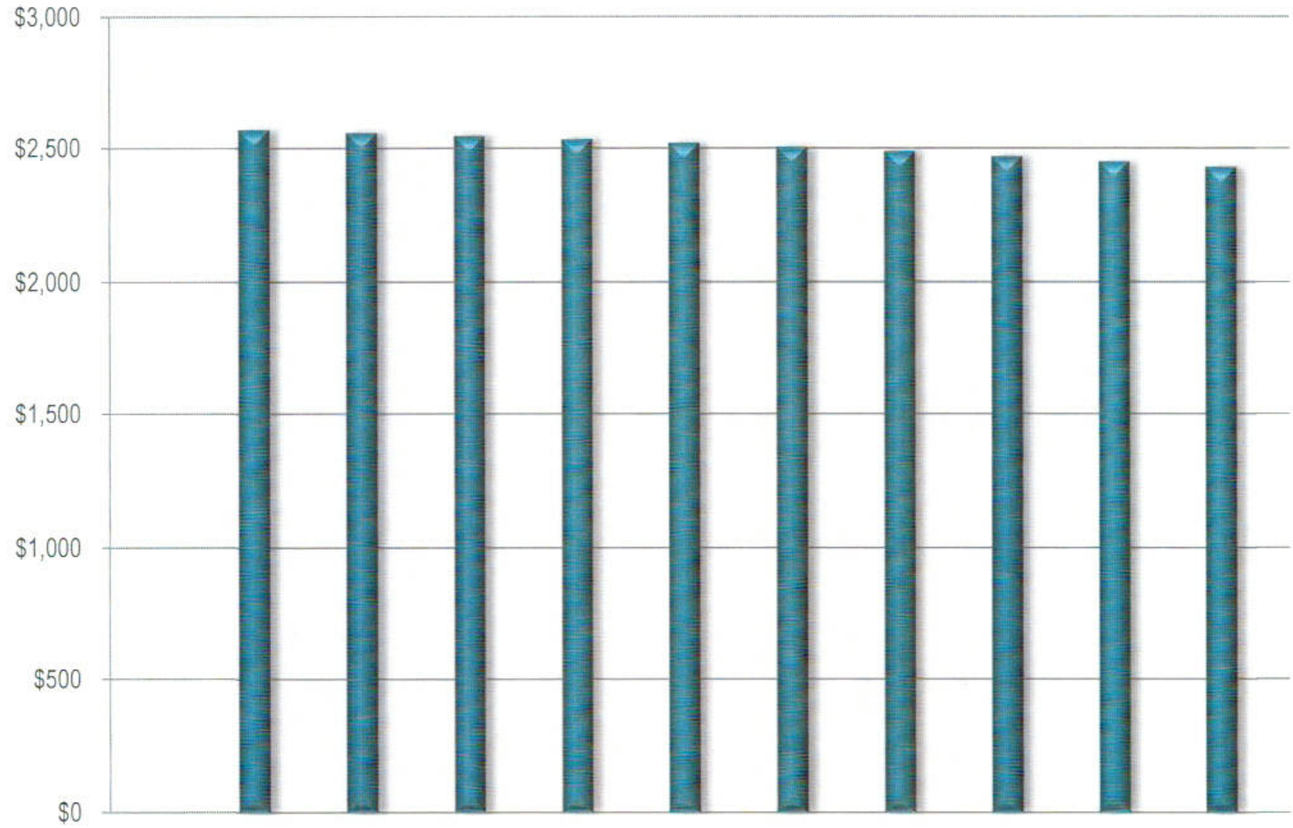


Age at Retirement

	Average Monthly Benefit
Service Retirements	*$3,583.88*
Disability Retirements	*Not applicable*
Beneficiaries Receiving	*Not applicable*
DROP Participants	*Not applicable*
Deferred Vested Participants	*Not applicable*
Deferred Beneficiaries	*Not applicable*

Projected Benefit Payments

Table III-D



Actual	
For the period October 1, 2018 through September 30, 2019	$0
Projected	
For the period October 1, 2019 through September 30, 2020	$2,570
For the period October 1, 2020 through September 30, 2021	$2,560
For the period October 1, 2021 through September 30, 2022	$2,548
For the period October 1, 2022 through September 30, 2023	$2,535
For the period October 1, 2023 through September 30, 2024	$2,521
For the period October 1, 2024 through September 30, 2025	$2,506
For the period October 1, 2025 through September 30, 2026	$2,489
For the period October 1, 2026 through September 30, 2027	$2,471
For the period October 1, 2027 through September 30, 2028	$2,451
For the period October 1, 2028 through September 30, 2029	$2,430

Summary of Actuarial Methods and Assumptions — Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. **Actuarial Cost Method**

   Individual entry age normal cost method (nominally)

2. **Amortization Method**

   The unfunded accrued liability has been amortized as a level-dollar payment; experience gains and losses are amortized over a five-year period and assumption changes are amortized over a 10-year period.

3. **Asset Method**

   The actuarial value of assets is equal to the market value of assets. Assets consist of a cash account plus an allowance for the default of the insurer on the purchased annuity contracts. It is assumed that there is a 1% chance that the insurer will default on its obligation under the annuity contracts.

4. **Interest (or Discount) Rate**

   4.00% per annum

5. **Decrements**

   - Post-retirement mortality: Sex-distinct rates set forth in the RP-2000 Combined Mortality Table, with full generational improvements in mortality using Scale BB

6. **Expenses**

   Administrative expenses payable from the plan have been assumed to be $6,674 per year. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.

Changes in Actuarial Methods and Assumptions — Table IV-B

This is the first actuarial valuation that has been prepared in over 10 years. Therefore, no assumption or method changes have been documented in this report.